

IN THE SPECIFICATION

In the second full paragraph on page 9:

Fig. 3 is a block diagram representing one embodiment of digital throttle 130 and its interactions with units 124 of pipeline 120. The disclosed embodiment of digital throttle 130 includes gate units 310(1)-310(n) (generically, gate unit 310 ~~gate-unit-130~~), a monitor circuit 320, a throttle unit 360 and a mode unit 380 ~~mode-unit-390~~. Each gate unit 310 is associated with a unit 124 in pipeline 120 and is capable of indicating an activity state of its associated unit. For example, gate unit 310 may be a clock gating circuit that couples or decouples a clock signal to unit 124 according to whether or not the services of unit 124 are necessary to implement an instruction currently in the pipe stage in which the unit operates.

In the first full paragraph on page 10:

Monitor circuit 320 collects signals from gate units 310 ~~gate-units-130~~, assesses a current power state from the collected signals, and determines whether to invoke one of the power control mechanisms, based on the assessed power state. If power control is warranted, monitor circuit 320 signals throttle unit 360 to implement one of the power control mechanisms. Mode unit 380 ~~Mode-unit-390~~ monitors the effects of the implemented power control mechanism and determines whether to invoke a different power control mechanism. Mode unit 380 ~~Mode-unit-390~~ may receive an indication of the efficacy of the current power control mechanism through monitor circuit 320, throttle unit 360 or some other source.

In the paragraph bridging pages 10 and 11:

For one embodiment of digital throttle 130, the threshold value indicates a high power consumption state, and throttle unit 360 triggers the processor to initiate a first power control mode. The first power control mode may, for example, provide linear control of power reduction by reducing instruction throughput or reducing the operating frequency of the processor. Mode unit 380 ~~Mode unit 3~~, monitors the effect of the first power control mode and, if warranted, activates a second power mode.

In the third full paragraph on page 12:

The power consumed by the processor's units depends on the operating point of the processor. For example, at lower frequencies and/or voltages, a given unit consumes less power in its activated state. Accordingly, one embodiment of AM 330 includes a scaling unit to adjust its activity estimation to reflect changes in the operating state. For other embodiments of digital throttle 130, AM 330 may also include a scaling unit to adjust its computations to reflect changes in the processors operating state. If a power control modes adjust the operating point of processor 110 to address an out-of-range power state, the scaling units allow AM 330 to adjust its estimate of processor activity to reflect the new operating point.

In the paragraph bridging pages 13 and 14:

Fig. 5 is a block diagram of one embodiment of mode unit 380, suitable for switching among different power control mechanisms. The disclosed embodiment of mode unit 380 includes a saturation unit 510 and a mode selector 550. Saturation unit (SU) 510 monitors the efficacy of a power control mode that is currently operative, and mode selector 550 selects

which, if any, power control mode is operative, based on inputs from TU 350 ~~TU-250~~ and SU 510.

In the first full paragraph on page 14:

The disclosed embodiment of SU 510 includes ~~and~~ an adder 514, a reset unit 518, an accumulator 530, ~~accumulator 520, and~~ comparators 560, 570 ~~comparators 530(a), 530(b)~~ and threshold stores 534(a), 534(b). Adder 514 and reset unit 518 monitor the output of TU 350 to determine whether or not the first power control mode is engaged. Accumulator 530 ~~Accumulator 520~~ increments or decrements a stored value, according to whether or not the first power control mode is engaged. The stored value indicates how often the first power control mechanism is being engaged. If this value reaches a first threshold, e.g. the value in store 534(a), the first control mode is being activated too frequently, and a second control mode is warranted. If this value reaches a second threshold, e.g. the value in store 534(b), the second control mode is no longer necessary. First and second comparators 560 and 570 ~~comparators 530(a) and 530(b)~~ assert their signals to mode selector 550, which adjusts the control modes accordingly.